

REMARKS

The abstract has been amended to correct an error noted by the examiner.

Claim 1 has been amended to further define the invention. Support for the amendment is found on page 11 lines 12-15 of the specification. The word “small” has been removed from the claim, in relation to the term “voids”.

Regarding the objections to the specification

The amendments to the abstract are believed to resolve the objections raised by the examiner in paragraphs 4 and 5 of the office action.

Regarding the §112 rejections

These rejections are believed to be overcome by the various amendments to the claims.

Regarding the §103(a) rejections

Applicants again respectfully traverse the rejections, on the same basis as articulated in the last response. Here, applicants wish to focus the examiner’s attention on the language newly added to claim 1, *i.e.*, “the surfaces of adjacent polymer particles are in contact with each other but the surfaces of the adjacent polymer particles are not fused”.

The examiner strains to show that Hamada’s porous films have the same structure as applicant’s glossy layer. For example, the examiner states that “Hamada’s micelles are “equivalent to applicant’s polymer dispersion because when dried it will form a dispersion of polymer particles”. The examiner then states that “the pore sizes of Hamada et al. would have a broad range, but a highly transparent porous layer would have a mean pore size of 10 to 350 nm. The sizes of the pores would be directly related to the sizes of the particles and their packing ability. A simple algebraic evaluation of the interstitial area of three coplanar adjacent spherical particles led the Examiner to the conclusion that the radius of the particles would intrinsically be 2.2X as big as the diameter of the pore.” The examiner further states: “The examiner has additionally reason to believe that the particle sizes would intrinsically comprise 100 to 200 nm in the transmission of light at 400 nm. . . [s]ince

the porous layer of Hamada is highly transparent at 400 nm, it would lead one to conclude that it must be intrinsically comprised of small particles, including ones of 100 to 200 nm.”

But none of this straining is necessary, because Hamada himself gives us the information we need. The examiner’s attention is respectfully directed to Figure 3 of Hamada. This is a micrograph of one of Hamada’s films, which is said to be highly transparent (Ex. 1). The micrograph provides a scale bar in the bottom right-hand corner. The film clearly shows no particulate structure whatsoever. The film shown in this picture is exactly as Hamada describes it—as a polymer network. Contrary to the examiner’s speculations about particle size, this micrograph unambiguously illustrates very large polymer masses, often 1 micron or more in size, which are fused to other polymer masses, without any sort of clear boundary. This micrograph does not show any significant relationship between the pore size and the size of these polymer masses, which undercuts the examiner’s speculations about the particle sizes present in Hamada’s film. The micrograph clearly shows that there are no spherical or even approximately spherical particles, which again undercuts the basis for the examiner’s estimates of Hamada’s particle size. In addition, the presence of large polymer masses in Hamada’s film also disproves another of the examiner’s assumptions—that Hamada’s films must contain small particles in order to be transparent. Hamada’s figure 3 and his example 1 show exactly the opposite. In fact, Hamada directly relates transparency to pore size (column 2 lines 53-60) rather than to the size of any polymer particles in his porous film. Common experience also tells us that macroscopically large structures can be transparent, including, for example glass or certain transparent polymers such as certain acrylics or polycarbonates. What the examiner has done is to assume that Hamada’s films are made up of particles, and based on that assumption, assumed further that the particles would have to be a certain size. But Hamada clearly fails to show any film made up of polymer particles. As Hamada explicitly describes, his films are made up of a porous polymer network.

A comparison of Hamada’s Figure 3 with Figure 1 of this application shows that the respective films have obviously different microstructures.

Note further that Hamada’s method of producing the film is significantly different than that described by applicants. The examiner’s position on this point is that since (as the examiner alleges) the Hamada’s and the applicants’ polymers are the same, the microstructure of the respective films must be the same, too. But this ignores the effect of processing conditions, which clearly affect polymer morphology, as Hamada himself

describes. And, as argued in more detail in the previous response, Hamada's polymers are different. It is only by a hindsight selection among Hamada's teachings that one could reconstruct the specific polymers of applicant's claims.

Regarding the requirement for a new declaration

The requirement for a new declaration is again noted. Applicants are still attempting to relocate the inventors to obtain a newly executed declaration, and will submit it as soon as it becomes available.

Conclusion

The abstract has been amended in response to the examiner's objections. Certain claims have been amended to put them into better form. The subject matter of the claims has been shown to be novel and unobvious over the cited references. Applicants believe the case is now in condition for allowance, and a notice to that effect is requested.

Respectfully submitted,
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